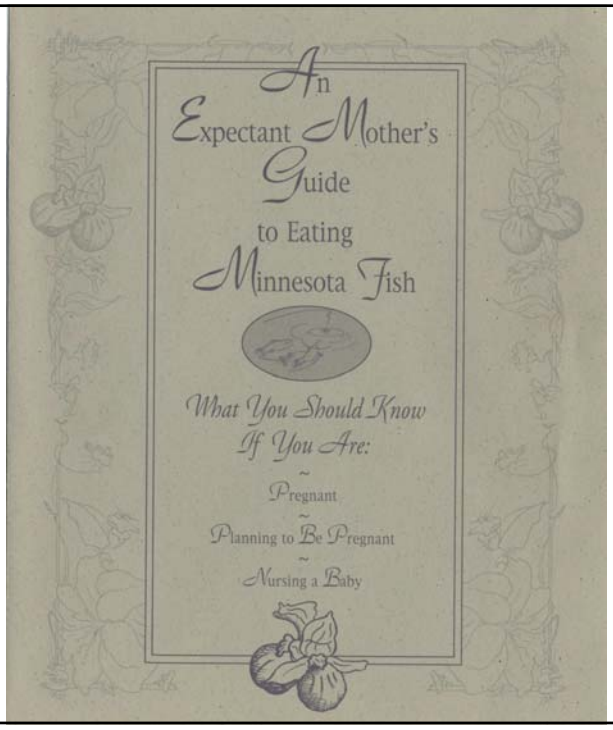
Fish Consumption Advice for Kids and Moms in Minnesota

Pat McCann
Minnesota Dept of Health



What About Store-Bought Fish?

The fish or shellfish you buy from your grocery store or fish market can also contain contaminants. Although there are laws to limit these contaminants, not all commercial fish are tested.

Pregnant or nursing women should not eat swordfish or shark. Canned tuna have mercury levels comparable to many Minnesota-caught fish. It is safe for a pregnant woman to eat up to 7 ounces of tuna each week — if it is the only source of mercury-contaminated fish, including sport-caught fish, eaten that week.

Most commercial ocean fish, such as shellfish, flounder, pollack, and cod, are low in PCBs. A pregnant or nursing woman can safely eat these once a week.

Remember to consider ALL sources of fish you eat when making your choices.

What kinds and how much fish should I eat?

The following guidelines are for women of child-bearing age and children under 15 years of age.

Follow these guidelines when eating fish:

For fish caught in Minnesota lakes and rivers:

Amount of each type of fish caught in Minnesota		
• Panfish (sunfish & crappie) • Perch • Bullheads	• Walleyes *shorter than* 20 in. • Northern pike *shorter than* 30 in. • All sizes of other species	• Walleyes *longer than* 20 in. • Northern pike *longer than* 30 in. • Muskellunge
↓ 1 meal a week	↓ 1 meal a month	↓ **Do not eat.**

Which fish are more likely to contain higher amounts of contaminants?

- larger fish
- older fish
- fish that feed on other fish (walleye, northern pike, bass)
- fatty fish

For commercial fish (bought in a store or eaten in a restaurant):

- The following fish are low in contaminants and may be safely eaten *two to three times a week*: flounder, haddock, herring, king crab, salmon, scallops, shrimp and whitefish.
- Fish that may be safely eaten *once a week* include: cod, halibut, lobster, pollock or 6 ounces of canned tuna.
- **Do not eat** shark, swordfish, tile fish or king mackeral.

Include all sources of fish you eat when making choices.

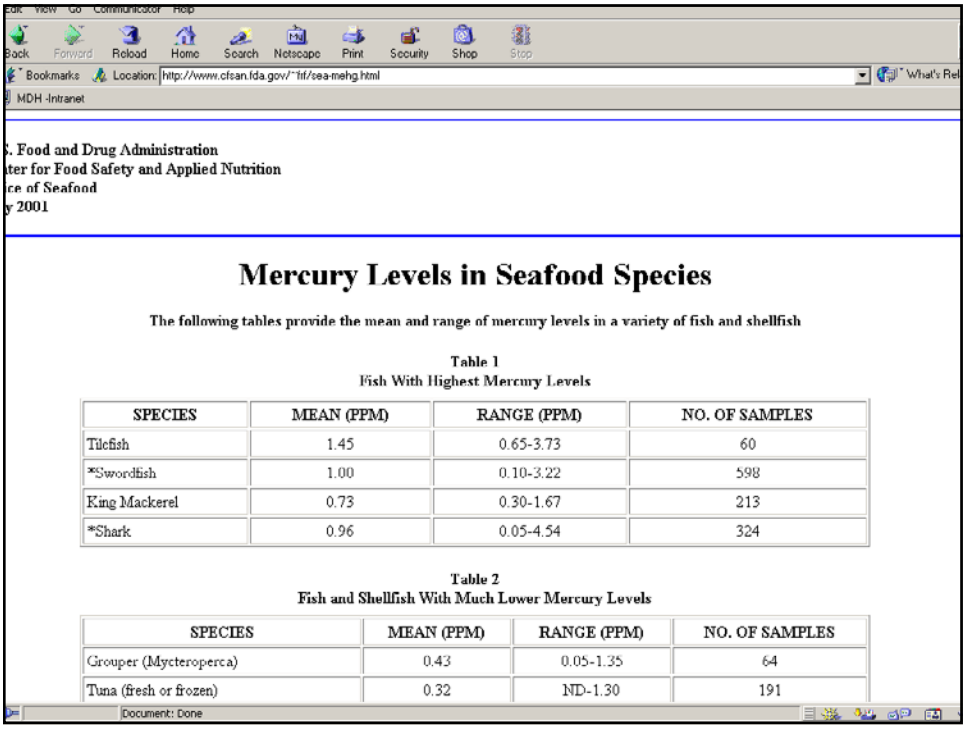
For example:

If you eat 6 ounces of canned tuna, wait one week before eating another meal of *any* type of fish. Or, if you eat one meal from an 18-inch walleye, *do not eat any other meals of fish for one month.*

Fish are an excellent low-fat food. Eat a variety of fish as part of your balanced food choices.

There are many reasons to enjoy a variety of fish often:

- Fish are a great source of protein, vitamins and minerals.
- The oils found in fish are important for unborn and breast-fed babies.
- Eating fish may play a role in the prevention of heart disease in adults.



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Mercury Levels in Seafood Species

The following tables provide the mean and range of mercury levels in a variety of fish and shellfish

Table 1
Fish With Highest Mercury Levels

SPECIES	MEAN (PPM)	RANGE (PPM)	NO. OF SAMPLES
Tilefish	1.45	0.65-3.73	60
*Swordfish	1.00	0.10-3.22	598
King Mackerel	0.73	0.30-1.67	213
*Shark	0.96	0.05-4.54	324

Table 2
Fish and Shellfish With Much Lower Mercury Levels

SPECIES	MEAN (PPM)	RANGE (PPM)	NO. OF SAMPLES
Grouper (Mycteroperca)	0.43	0.05-1.35	64
Tuna (fresh or frozen)	0.32	ND-1.30	191

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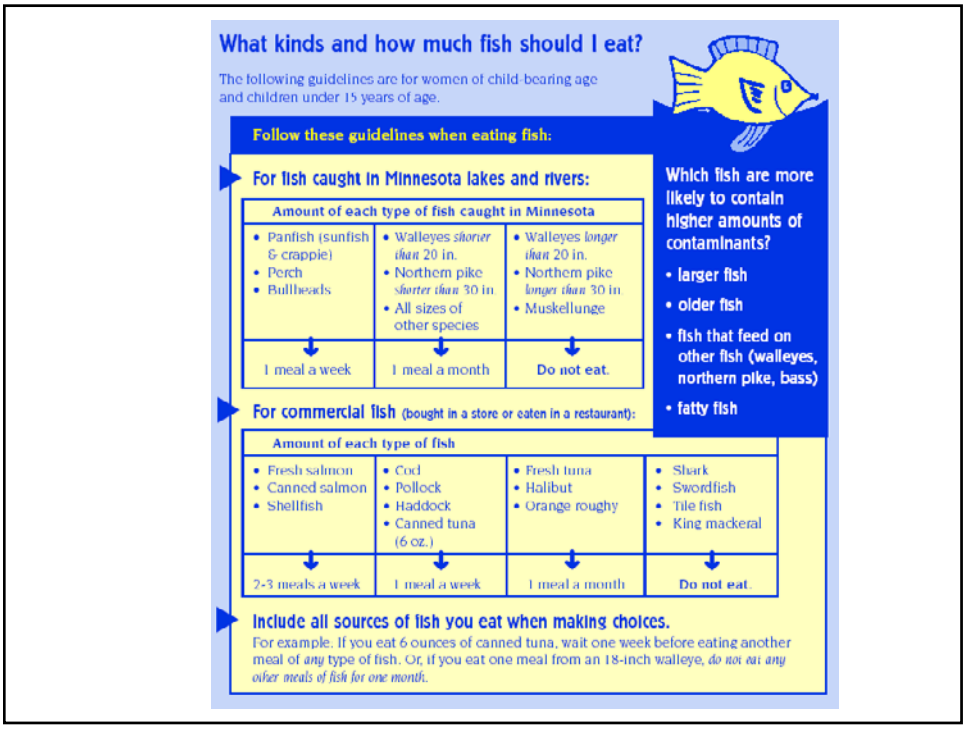

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↓ 1 meal a week	↓ 1 meal a month	↓ Do not eat.

For commercial fish (bought in a store or eaten in a restaurant):

Amount of each type of fish			
• Fresh salmon • Canned salmon • Shellfish	• Cod • Pollock • Haddock • Canned tuna (6 oz.)	• Fresh tuna • Halibut • Orange roughy	• Shark • Swordfish • Tile fish • King mackeral
↓ 2-3 meals a week	↓ 1 meal a week	↓ 1 meal a month	↓ Do not eat.

Include all sources of fish you eat when making choices.

For example, if you eat 6 ounces of canned tuna, wait one week before eating another meal of *any* type of fish. Or, if you eat one meal from an 18-inch walleye, *do not eat any other meals of fish for one month.*

Which fish are more likely to contain higher amounts of contaminants?

- larger fish
- older fish
- fish that feed on other fish (walleyes, northern pike, bass)
- fatty fish

Most ocean fish are low in contaminants. However, some fish contain higher amounts of mercury.

The following guidelines for some popular species can be followed to allow you to enjoy commercial fish and at the same time reduce your risk to mercury:

Ocean Species	Women of child-bearing age and children under 15	Women beyond child-bearing age and men
Salmon, canned salmon, and shellfish	2–3 meals per week	Unlimited Consumption
Cod, pollock, haddock, canned tuna (6 oz. can)	1 meal per week	Unlimited Consumption
Tuna steaks, halibut, orange roughy	1 meal per month	1 meal per week
Shark, swordfish, king mackerel, tilefish	Do Not Eat	1 meal per month

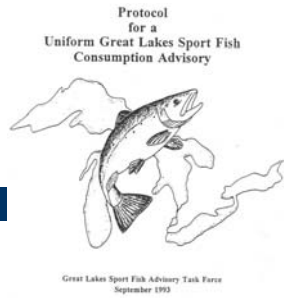
2004 Revision? (many issues)

- Consistency with other agencies
- Joint EPA/FDA advice?
- Separate advice for “light” vs. albacore canned tuna
- Contaminants in addition to mercury
  - Dioxins (IOM recommendations)
- Farm raised fish
- Benefits
- New FDA mercury in fish data

Consumption Advice – FDA data EPA RfD

Meal Advice	Species
Unlimited	Salmon, tilapia, flounder oysters, clams, shrimp, scallop, sardines
One Meal/Week	“light” canned tuna, cod, pollock, haddock, mahi mahi, herring, catfish, crab
One Meal/Month	“albacore” canned tuna, fresh tuna, halibut, orange roughy, lobster, grouper, red snapper

Consistency



- Risk assessment
  - RfD
  - Contaminant(s)
    - Mercury
    - Others ?
  - Data
    - Sources of data
    - Statistic – mean?
  - Meal size
    - EPA guidelines 8oz = 1 meal
    - FDA advisory 12oz = 2 to 3 meals
    - AHA statement 12oz = 3 to 4 servings
  - Significant Figures

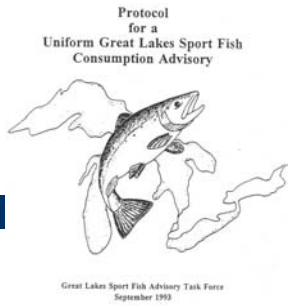
Meal Advice Categories – Mercury Women and Children

Unlimited consumption	< 0.06 ppm Hg
1 meal / week	> 0.06 - 0.2 ppm Hg
1 meal / month	> 0.2 - 1.0 ppm Hg
Do not eat	> 1.0 ppm Hg

Table 4-3. Monthly Fish Consumption Limits for Noncarcinogenic Health Endpoint - Methylmercury

Risk Based Consumption Limit[a]	Noncancer Health Endpoints[b]
Fish Meals/Month	Fish Tissue Concentrations (*ppm, wet weight*)
Unrestricted (>16)	0 - 0.029
16	>0.029 - 0.059
12	>0.059 - 0.078
8	>0.078 - 0.12
4	>0.12 - 0.23
3	>0.23 - 0.31
2	>0.31 - 0.47
1	>0.47 - 0.94
0.5	>0.94 - 1.9
None (<0.5)	>1.9

Consistency (cont.)



- Communication
  - With other agencies/organizations
    - EPA, FDA, AHA, States, Tribes
  - Canned tuna
  - Farm raised
  - Age of Child
  - “And” vs. “Or” (between meal advice categories)
  - Benefits

A Guide to Your Health

Fish are nutritious and good to eat. But some fish may take in contaminants from the water they live in and the food they eat. Some of these contaminants build up in the fish - and you - over time. These contaminants could harm the people who eat them, so it is important to keep your exposure to these contaminants as low as possible. This advisory helps you plan what fish to keep as well as how often and how much sport fish to eat. This advisory is not intended to discourage you from eating fish, but should be used as a guide to eating fish low in contaminants.

Health Benefits

When properly prepared, fish provide a diet high in protein and low in saturated fats. Many doctors suggest that eating a half-pound of fish each week is helpful in preventing heart disease. Almost any kind of fish may have real health benefits when it replaces a high-fat source of protein in the diet. You can get the health benefits of fish and reduce unwanted contaminants by following this advisory.

Benefits – Tailor advice for person?

- Fetal development - cell membranes of retina, brain & central nervous system
- CVD
- Nutritional comparison to other food choices - low fat, high quality protein
- Cultural

Benefits and risks of eating fish vary depending on a person's stage of life

- Children, pregnant and nursing women usually have low CVD risk but may be at higher risk of exposure to excessive mercury from fish. Avoiding potentially contaminated fish is a higher priority for these groups.
- For middle-aged and older men, and women after menopause, the benefits of eating fish far outweigh the risks within the established guidelines of the FDA and Environmental Protection Agency.

AHA "Fish, Levels of Mercury and Omega-3 Fatty Acids"

“2 meals per week” Recommendation

- **The American Heart Association recommends eating fish at least twice a week.** However, some types of fish may contain high levels of mercury, PCBs (polychlorinated biphenyls), dioxins and other environmental contaminants. Levels of these substances are generally highest in older, larger, predatory fish and marine mammals.

Which fish have enough omega-3 in 2 - 8oz meals per week?

Sardines, herring, salmon, albacore canned tuna, fresh tuna, rainbow trout, flounder, halibut, pollock, oyster, (mackerel?)

Which can be eaten 2X/wk?

- Salmon, flounder, oysters, sardines

2004 Revision

- Provide meal advice based on mercury as in past
  - Separate advice for “light” and albacore tuna
- Flag species both low in mercury and high in omega-3’s (need to do the same for local species)
- Provide reasons to eat fish which address variety of benefits